

What is claimed is:

1. A three-dimensional shape measuring system comprising:

5 a measuring section for measuring a three-dimensional shape of an object by scanning the object; and

a display section for displaying information about an area where the scanning has been completed by the measuring section in accordance with a progress of the scanning.

10 2. The three-dimensional shape measuring system according to claim 1, wherein the measuring section includes:

a scanning section for changing a measuring direction; and

15 a distance measuring section for measuring a distance to the object in each measuring direction of the scanning section; and

the measuring section measures the three-dimensional shape of the object based on the measured distance.

20 3. The three-dimensional shape measuring system according to claim 2, wherein the measuring section calculates a distance to each point on the object, based on a flight time of a pulsed light from a transmitting time of a pulsed light to a receiving time of the pulsed light reflected from the object.

4. The three-dimensional shape measuring system

25 according to claim 1, wherein the measuring section includes:

a scanning section for changing a measuring direction;

an imaging section for taking a two-dimensional image of the object in each measuring direction of the scanning section;

a detection section for detecting a silhouette of the two-

30 dimensional image; and

the measuring section measures the three-dimensional shape of the object based on the detected silhouette.

5. The three-dimensional shape measuring system according to claim 1, further comprising:

5 a monitor imaging section for taking an image of the object; and

wherein the display section displays identifiably an area where the scanning has already completed and an area where the scanning has not completed yet based on the image obtained  
10 by the monitor imaging section.

6. The three-dimensional shape measuring system according to claim 5, wherein the information is a message image indicating the status of progress of the scanning.

7. The three-dimensional shape measuring system  
15 according to claim 6, wherein the message image is an image indicating a degree of progress of the scanning as a percentage.

8. A three-dimensional shape measuring system comprising:

a measuring section for measuring a three-dimensional  
20 shape of an object by scanning the object;

an imaging section for taking an image including an area to be measured by the measuring section; and

a display section for displaying the image taken by the imaging section identifiably with an area where the scanning  
25 has already completed and an area where the scanning has not completed yet based on a degree of progress in the measuring section.

9. The three-dimensional shape measuring system according to claim 8, wherein the measuring section includes:

30 a light source;

a scanner for scanning the object by deflecting a light from the light source;

a sensor for receiving a light deflected by the scanner and reflected from the object; and

5 a calculating section for calculating a distance to each scanning position of the object based on an output of the sensor.

10 10. The three-dimensional shape measuring system according to claim 8, wherein the measuring section includes:

a two-dimensional imaging device;

10 a scanner for changing an imaging direction of the two-dimensional imaging device;

an outline generating section for generating an image formed by an outline of each image obtained by the two-dimensional imaging device on each scanning position; and

15 a processing section for generating information with respect to a three-dimensional shape of the object, based on the image generated by the outline generating section.

20 11. The three-dimensional shape measuring system according to claim 8, wherein the display section displays the three-dimensional shape which is measured.

12. The three-dimensional shape measuring system according to claim 8, wherein the display section displays during the scanning by the measuring section.

25 13. The three-dimensional shape measuring system according to claim 12, wherein the display section updates display contents a plurality of times during the scanning by the measuring section.

30 14. The three-dimensional shape measuring system according to claim 8, further comprising an instructing section for instructing a stop of the measurement by the measuring

section during measurement.

15. The three-dimensional shape measuring system according to claim 14, further comprising:

a storage section for storing a result of a measurement;  
5 and

a control section for controlling the measuring section to store a result of a measurement already measured when the stop of measuring is instructed by the instructing section.

16. A three-dimensional shape measuring system  
10 comprising:

a measuring section for measuring a three-dimensional shape of an object by scanning the object;

an instructing section for instructing a stop of measuring by the measuring section; and

15 a storage section for storing the three-dimensional shape measured by the measuring section before the stop of measuring is executed when the stop of measuring is instructed.

17. The three-dimensional shape measuring system according to claim 16, wherein the measuring section scans  
20 two-dimensionally the object in an one-way form.

18. The three-dimensional shape measuring system according to claim 17, wherein the measuring section scans spirally the object.

19. The three-dimensional shape measuring system  
25 according to claim 16, wherein the scanning of the measuring section is performed by changing a relative position of the measuring section and the object.

20. The three-dimensional shape measuring system according to claim 19, wherein the measuring section includes:  
30 a rotary base for placing the object; and

an imaging device fixed regardless of a rotation of the rotary base; and

the imaging device images for measuring the three-dimensional shape of the object in a predetermined period  
5 rotating on the rotary base.

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